Magnetism

2-5 The student will demonstrate an understanding of force and motion by applying the properties of magnetism. (Physical Science)

2.5.3 Compare the effect of magnets on various materials.
Taxonomy level: 2.6-B Understand Conceptual Knowledge

Previous/Future knowledge: In kindergarten (K-5.1), students classified objects observable properties including magnetic attraction. This concept will be further developed in 4th grade (4-5.9) when they summarize the properties of magnets and electromagnets (including polarity, attraction/repulsion, and strength).

It is essential for students to know the effect of magnets on various materials.

- A magnet is solid material that attracts iron or products that contain iron like steel.
- If a material does not have iron in its composition, the magnet will not attract it.

NOTE TO TEACHER: A possible misconception can be formed if students do not realize some objects that look like metal do not contain iron, therefore they do not have magnetic properties, and they will not be attracted to a magnet.

SAFETY NOTE TO TEACHER: The effect of magnets on various materials is a very important classroom safety issue. Students need to know that they should not use magnets around computers, computer disks, TVs, VCRs, tape recorders, videotapes, or cassette tapes. Continual use of magnets around these materials will cause them to not work properly or their contents will be erased.

It is not essential for students to know that cobalt and nickel also have magnetic properties.

Assessment Guidelines:
The objective of this indicator is to *compare* the effect of magnets on various materials; therefore, the primary focus of assessment should be to detect ways that magnets will react with various materials. However, appropriate assessments should also require students to *identify* ways that magnets will interact with various materials.